

WHAT IS CLAIMED IS:

1. A three-dimensional image display method  
5 comprising  
detecting a position of a light source  
comparing the position of the light source and a virtual  
position of a display object in a three-dimensional image  
to obtain a relative positional relation therebetween; and  
10 shading in the three-dimensional image.

2. The method according to claim 1, further comprising  
detecting lightness of the light source.  
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3. A three-dimensional image display method  
comprising  
20 detecting positions of a plurality of light sources  
comparing each of the positions of the light sources  
and a virtual position of a display object in a three-dimensional  
image to obtain relative positional relations therebetween;  
and  
25 shading in the three-dimensional image.

4. The method according to claim 1, further comprising obtaining a position of a single virtual light source, which represents the plurality of light sources,

5 wherein in the comparing step, the position of light source and the virtual position of the display object in the three-dimensional image to obtain the relative positional relations therebetween.

10 5. A three-dimensional image display device comprising:

a detector which detects a position of a light source  
an image process unit configured to compare the position of the light source and a virtual position of a display object  
15 in a three-dimensional image to obtain a relative positional relation therebetween, and to shade in the three-dimensional image.

20 6. A three-dimensional image display device comprising:

a plurality of detectors which detects a position of a light source

an image process unit configured to compare the position of the light source and a virtual position of a display object  
25 in a three-dimensional image to obtain a relative positional

relation therebetween, and to shade in the three-dimensional image.

7. The device according to claim 5, further comprising:  
5 a display surface configured to display the three-dimensional image, wherein:

the detector is disposed on at least one of the display surface and a surface adjacent to the display surface.

10 8. The device according to claim 5, further comprising:  
a display surface configured to display the three-dimensional image, wherein:

the detector is disposed to be adjacent to the display surface.

15 9. The device according to claim 5, wherein the detector is disposed at a position where the detector which detects the light source from the light in the same direction as at least one of a display direction of the three dimensional  
20 image and a direction in which the three-dimensional image is observed.

10. The device according to claim 5, wherein:  
the detector includes three-primary-colors detection  
25 means for adding colors to the shade

11. A light direction detection device comprising:  
a light detection array disposed on a substrate; and  
a discontinuous light shielding member standing  
5 perpendicularly to the substrate.

12. The device according to claim 11, wherein the light  
shielding member has a bar shape.

10 13. The device according to claim 11, wherein:  
the light shielding member includes a plurality of  
portions; and  
one of the portions is different from another of the portions  
in thickness.

15 14. The device according to claim 11, wherein:  
the light shielding member includes a plurality of  
portions; and  
one of the portions is made of a different medium from  
20 that of another of the portions.

15 15. The device according to claim 11, wherein an incident  
direction of incident light and an incident angle of the incident  
light are detected on the basis of number of shadows of the  
25 light shielding member from the root of the light shielding

member and a position of a front end portion of the shadows.